Call with NDDEQ and Office of Water re: ND's Hg and Se WQC Jan 8, 2020

Attendees: Pete Wax, Erica Fleisig, Mario Sengco, Lars Wilcut, Karen Kesler

NDDEQ is working on its next triennial review and plans to revise its aquatic life chronic mercury criterion. They have some questions related to EPA's currently recommended criteria for mercury – and want to make sure they're on the right path as they go through their standards revisions.

ND also has some concerns about EPA's selenium criteria, including the potential impact on dischargers in very small communities, and they've found a weak connection in their data between what's in the water column and what's in fish ovum.

Mercury:

ND's Human Health criteria Mercury is 0.50 ug/L and .51 ug/L. Pete's not sure where the numbers came from.

The struggle HQ has with EPA's current acute and chronic AL criteria (1.4 ug/L and 0.012 ug/L, respectively), is that the current WQC is from the 1990s and doesn't reflect the latest science. Recent literature suggests a methyl mercury number is more appropriate than the 1995 inorganic mercury criterion in ND's WQS.

The National Marine Fisheries Service has language indicating why the 1995 Hg criteria is not protective of aquatic life. Erica will send the Biological Opinion which I'll share with Pete.

Pete said ND would be on board with both mercury and methylmercury criteria. He asked if there are plans in the near future for EPA to come up with revised mercury criteria.

Erica said it's not a national priority right now, but litigation in Idaho might result in a methyl mercury number to replace the current ('95) criteria. [language in NMFS BO p. 144-162]

Pete says when looking at methylmercury it's a moving target in lentic and lotic systems. He's been able to track methylmercury levels in salmon based on water levels and the release of the water in Lake Sakakawea.

EPA has accepted fish tissue criterion for HH. We can figure out implementation down the road.

Pete asked, so there'd be no risk if ND changes its AL chronic Hg criteria (currently at 0.012 ug/L; will come out to .8 something in spreadsheet). There won't be a "boogie man"?

Erica said the numbers are so old (from 1995) and we now know so much more mercury.

In Idaho, [NMFS] concluded 0.012 would not protect aquatic life and may even jeopardize some of the species there, and recommends that Idaho move away from the organic number to a methyl mercury number. [And come up with .0012 methyl mercury water column number.]

We may struggle with 0.77 # but depends on the species.

Selenium:

ND is happy with ovum concentration in WQC... and how it impacts aquatic life.

The issue is making the connection with the water column.

Pete said they'll start collecting mussel data and asked if anyone could foresee problems if they wrote the new selenium criteria but just used the organism concentration and no water column criteria. He said the problem is that there's lots of naturally-occurring selenium in the state. They have lots of violations for selenium in the state, but it's not related to anything anthropogenic (Se in soils).

He likes the idea of the fish criteria, particularly the egg-ovary, but is not excited about water (lentic or lotic) concentration.

Karen asked how would selenium be permitted if ND only has fish tissue criteria?

Pete said dischargers would still have to meet the current water quality (20 ug/L for acute and 5 ug/L for chronic). EPA's water numbers are really tiny for ND (1.3 ug/L lentic; 30-day) and 3.1 ug/L lotic; 30-day).

EPA would have an issue with ND retaining the 5 ug/L chronic and adding an ovary number on top of it. (t doesn't show the linkage between 1.3 and 3.1 [(they can work on water column number)]. They would have difficulty with 5 ug/L and adding ovum because of scientific validity.

EPA has taken the 20th percentile of the spectrum of the water column values in the country.

Pete doesn't see the connection as clearly as he'd like to when writing a standard and the new criteria would affect many more people and add many more listings, and would not likely see any improvements in WQ.

Lars said EPA doesn't want states to spend money that they don't have to spend or list waters they shouldn't have to list. Their first preference is for the state to have data to develop its own water column values that accompany the egg ovary and fish tissue values so you're working with appropriate water column values (EPA's), even if nationally-derived criteria don't work for ND's waters. The least preferable option is for the state to retain the 5 ug/L (chronic) and 20 ug/L (acute) values on the books now.

Karen said that if fish tissue values are met, the state wouldn't have to list the waters, even if water column numbers are high.

Another concern of Pete's is that the 2016 selenium criteria are finalized. The state wants to be responsive to this.

Karen said ND could use muscle or fish tissue to come up with more appropriate water column values for the state. If you have those tissue values, the way criteria are structured, that concentration is the criteria for listing. If you don't have fish tissue values, then you look at water column values.

If collecting [data] you need water column and concentrations in fish tissue. Egg over tissue is strongest correlation for toxicity effects. If collecting … those values can be used to find appropriate water column value for ND.

ND may not take action this time around. Have to talk with WQ monitors this time around …

ND have some old data – they looked at whole fish and skin … filets…maybe circa gold book. EPA said they need more recent data, but it would give good ballpark…

Selenium ROC notes!
~ND WQS ROC Selenium WQC Jan 8 2020~

Even they can do ecoregional criterion – its an element – how its accumul'g is driving by dynamics of sys so if more appropr splitting into ecoregions,epa can help review it to make sure they're getting the right numbers…

If ND writes egg and ovary and whole fish with footnote (with ftnote to say as data come in they'll work ion water column) but don't leave curr number on books?

Correct. Water coumn value is in to help with permitting issues.

When you take data its all over the place depending on where last rainfall occurred.

The key pt is epa is hoping to see with water col elements related to fish tissue elements or somet other thin in WQS that explains to others how you'd derive water column elements if it's not in the standards. EPA can help!